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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/522,404	01/26/2005	Takeshi Imamura	03500.017461	5542
5514 7590 03/21/2008 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112				
EXAMINER LEVKOVICH, NATALIA A				
ART UNIT 1797		PAPER NUMBER		
MAIL DATE 03/21/2008		DELIVERY MODE PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/522,404

**Applicant(s)**

IMAMURA ET AL.

**Examiner**

NATALIA LEVKOVICH

**Art Unit**

1797

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12/18/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6, 9, 10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 9-10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

#### ***Response to Amendment***

1. Applicant's amendments and remarks dated 12/18/2008 have been acknowledged.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.

#### ***Election / Restriction***

3. Upon further consideration, claims 1-4, 6, 9-10 and 12-14 have been REJOINED.

#### ***Drawings***

4. The drawings remain objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims, as well as any structural detail that is essential for a proper understanding of the disclosed invention. Therefore, the "units connected to the liquid transfer apparatus in a cassette-like manner," must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

#### ***Specification***

5. The objection to the specification is withdrawn, in view of clarifications provided by Applicant.

#### ***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 1-4, 6, 9-10 and 12-14 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, as amended, recites a liquid transfer apparatus having a plurality of units, wherein each unit "can be connected to and disconnected from the liquid transfer apparatus in a cassette-like manner." Upon further reviewing of the original specification, Examiner found no support for this limitation. The specification supports the liquid transfer apparatus being "like a cassette" and its capability "to be connected to and disconnected from other liquid transfer apparatuses" [ that is, its modularity – Ex.], but not connecting the units in the "cassette-like manner."

8. Claims 1-4, 6, 9-10 and 12-14 are rejected under 35 U.S.C. 112, second paragraph, as being unclear for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In particular, claim 1, as amended, recites a liquid transfer apparatus having a plurality of units, wherein each unit "can be connected to and disconnected from the liquid transfer apparatus in a cassette-like manner." It is unclear whether or not any common support structure / base is intended. It is also unclear whether the "cassette-like manner" means the shape of the unit, or the presence of some sliding or mating elements.

***Claim Rejections - 35 USC § 102***

9. The 35 U.S.C. 102 (b) rejection of claims 1-3, 6, 9-10 and 12, as being anticipated by Caucal (US 5935332), is withdrawn, in view of latest amendments.
10. Claims 1-3, 9-10 and 12-14 are rejected under 35 U.S.C. 102(b) as anticipated by Neukermans (US 6068751).

Neukermans discloses a modular fluidic delivery system comprising, as shown in Figures 1-3, module 20 including pouch 22, 124, 122, 108 [liquid containing section], inlet 158 [liquid introducing section] and outlet 48 [liquid leading out section] provided with piezo-electric actuator 34 [energy application means]. The module has a plate-like, or cassette-like shape and can be connected to other modules, in parallel or in series, to form more complex fluidic circuits: "[T]he liquid delivery system can be used as a component in assembling much more complex microfluidic systems which also form part of the present invention" (see Figure 10; Col.3, lines 35-40).

Regarding claim 2, Neukermans discloses self-sealing material in inlets 158 in column 10, lines 25-30.

Referring to claim 3, pouch 122 used as a reaction camera is provided with heater 152 [processing means]. See Figure 3.

With respect to claims 9-10, Neukermans describes integrating a variety of detectors into the fluidic system in column 14, lines 1+.

Regarding claim 14, Neukermans teaches a registration aperture "that mates with and engages a registration pin that projects from the base plate" for connecting the modules (Col.3, lines 18-25).

***Claim Rejections - 35 USC § 103***

11. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Neukermans.

Neukermans does not specifically teach the valves to be check valves and a plurality of inlets dedicated to a single liquid containing sections. However, check valves and multiple inlets are routinely used in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed check valves in the modified apparatus of Neukermans, in order to ensure one-directional fluid flow. It would have been also within the ordinary skill of an artisan to have provided additional inlet ports in the pouch for simultaneous infusion of reagents.

***Response to Arguments***

12. Applicant's arguments filed on 12/18/2008 and 08/14/2007 have been fully considered but they are moot in view of new grounds of rejection.

***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jill Warden/  
Supervisory Patent Examiner, Art Unit 1797